BY ORDER OF THE COMMANDER
SPANGDAHLEM AB (USAFE)

SPANGDAHLEM AIR BASE
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Civil Engineering

SNOW AND ICE CONTROL

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This instruction implements Air Force Policy Directive (AFPD) 32-10, *Installations and Facilities*, and Air Force Instruction (AFI) 32-1002, *Air Force Snow and Ice Control (S&IC)*. It provides Civil Engineer (CE) support to organizations on Spangdahlem Air Base (AB) and outlines support responsibilities for other organizations. This instruction applies to all 52d Fighter Wing (52 FW) and tenant units. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims**/. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF 847, *Recommendation for Change of Publication*; route AF 847s from the field through the appropriate functional's chain of command.

SUMMARY OF CHANGES

This document has been substantially revised and must be completely reviewed.

This revision updates and clarifies previous guidance on snow and ice control and has incorporated. Deicing changes allow specific emphasis to be placed on environmental stewardship and the expanse of coordination required in the process. CE Infrastructure has been added (paragraphs 1.1.25., 1.2.6., 1.2.11.); clarifies 726 Air Mobility Squadron (726 AMS)/Air terminal Operations Center duties (paragraph 1.3.6.2.); Identifies manning shortfalls (paragraph 1.3.7.2.); defines Airfield System Maintenance (52 CS/SCOA) use of landing and radar as

pertaining to signal interference (paragraph 1.3.8.5.); break red authority (paragraph 1.3.11.5.); clarifies OSAM ops priorities (paragraph 1.3.20.15.); defines roles and responsibilities of Water and Fuels Systems Maintenance (52 CES/CEOIU) (paragraphs 1.3.22); maintain snow clear areas (paragraph 2.1.1.); describe aircraft (A/C) deicing operations (Paragraph 2.1.1.2. and 2.1.1.3.); deicing crew responsibilities (paragraph 2.1.5.); change from SIC to S&IC (paragraph 2.2.3.); contaminated snow removal (paragraph 2.2.8.1.); deicing (paragraphs 2.4. and 2.5.); manning for snow shifts (paragraph 3.1.); snow removal training (paragraph 3.2.); snow removal and deicing equipment (paragraph 3.3.); 52 CES/CEOIU responsibilities (paragraph 4.1.3); 52d Logistics Readiness Squadron (52 LRS) vehicle maintenance responsibilities (paragraph 4.1.4.); pavement surfaces and damage inspections (paragraph 4.1.5); Glycol Recovery Vehicle (GRV) acronym added; updated Snow Removal Priorities map (paragraph A2.1.); Deicing Conditions Matrix (paragraph A3.1.).

1. Responsibilities.

1.1. Snow and Ice Control Committee (S&ICC). The following personnel are members of the S&ICC.

1.1.1. 52 FW Commander (52 FW/CC) (Chairman).

1.1.2. 52 Operations Group Commander (52 OG/CC).

1.1.3. 52 Maintenance Group Commander (52 MXG/CC).

1.1.4. 52 Mission Support Group Commander (52 MSG/CC).

1.1.5. 52 Aircraft Maintenance Squadron Commander (52 AMXS/CC).

1.1.6. 726 AMS/CC.

1.1.7. 52 CES/CC.

1.1.8. 52 Communications Squadron Commander (52 CS/CC).

1.1.9. 52 Contracting Squadron Commander (52 CONS/CC).

1.1.10. 52 LRS/CC.

1.1.11. 52d Security Forces Squadron Commander (52 SFS/CC).

1.1.12. 52d Force Support Squadron Commander (52 FSS/CC).

1.1.13. 52 FW Safety Office (52 FW/SE).

1.1.14. 52 CES Operations Flight Commander (52 CES/CEO).

1.1.15. 52 CES Fire Protection Flight Commander (52 CES/CEF).

1.1.16. 52 CES Asset Management Flight, Natural Resources Element Chief (52 CES/CEAN).

1.1.17. 52 OSS Weather Flight (52 OSS/OSW).

1.1.18. 52 LRS Vehicle Maintenance Element Chief (52 LRS/LGRV).

1.1.19. 52 OSS/OSAM.

1.1.20. 52 OSS Control Tower (52 OSS/OSAT).

1.1.21. 52 CES Section Chief, Horizontal Pavements (52 CES/CEOHP).

1.1.22. 52d Maintenance Operations Squadron (52 MOS) Maintenance Operations Center (MOC) Chief (52 MOS/MXOOM).

1.1.23. 52 LRS Supply Representative.

1.1.24. 52 CES Heavy Repair Superintendant (52 CES/CEOH).

1.1.25. 52 CES Infrastructure Superintendant (52 CES/CEOI).

1.1.26. 52CES/CEOIU Section Chief.

1.1.27. 52 CS Mission Systems Flight Representative .

1.1.28. Any other agency or person designated by 52 FW/CC.

1.2. Snow & Ice Control Working Group (S&ICWG) members.

1.2.1. 52 CES/CEO (Chairman).

1.2.2. 52 FW Flight Safety Office (52 FW/SEF).

1.2.3. 726 AMS/MOC.

1.2.4. 52 OSS/OSW.

1.2.5. 52 CES/CEOH.

1.2.6. 52 CES/CEOI.

1.2.7. 52 CES/CEAN.

1.2.8. 52 LRS/LGRV.

1.2.9. 52 OSS/OSAM.

1.2.10. 52 CES/CEOHP.

1.2.11. 52CES/CEOIU.

1.2.12. 52 MOS/MXOOM.

1.3. Unit Responsibilities.

1.3.1. 52 FW/CC forms and chairs the S&ICC and appoints additional members as needed.

1.3.1.1. S&ICC meets bi-annually, pre-season snow brief no later than (NLT) 31 October and post season snow brief NLT 31 May.

1.3.2. 52 OG/CC Responsibilities.

1.3.2.1. Sets snow removal priorities for wing flying as it pertains to airfield pavements. (52 OSS/OSAM advises SNOW-1 of priorities).

1.3.2.2. Restricts all vehicle movements on unplowed airfield pavements to prevent compaction of snow.

1.3.3. 52 MXG/CC Responsibilities.

1.3.3.1. Directs removal of tools, fire extinguishers, wheel chocks, aerospace ground equipment (AGE) and any other items from airfield pavements prior to S&IC operations. S&IC will commence when each area is completely cleared of vehicles and equipment.

1.3.3.2. Directs 52 MXG personnel to restrict vehicle movement to an absolute minimum on unplowed airfield pavements to prevent compaction of snow.

1.3.3.3. Directs maintenance personnel working on the flight line to report hazardous pavement conditions to 52 MOS/MXOOM.

1.3.4. 52 MSG/CC Responsibilities.

1.3.4.1. Activates the Snow and Ice Control Plan (S&ICP).

1.3.4.2. Directs 52 MSG personnel to restrict vehicle movement to an absolute minimum on unplowed airfield pavements to prevent compaction of snow.

1.3.4.3. Appoints Deicing Czar to coordinate deicing conditions (DICON) action plan.

1.3.5. 52 AMXS/CC Responsibilities.

1.3.5.1. Directs removal of tools, fire extinguishers, wheel chocks, AGE equipment and any other items from airfield pavements prior to S&IC operations. S&IC will commence when each area is completely cleared of vehicles and equipment.

1.3.5.2. Directs 52 AMXS personnel to restrict vehicle movement to an absolute minimum on unplowed airfield pavements to prevent compaction of snow

1.3.5.3. Ensures Hardened Aircraft Shelters (HAS) hardstands are cleared of snow and ice within 10 feet of HAS entrances. Use only approved airfield surface deicing chemicals.

1.3.6. 726 AMS/CC Responsibilities.

1.3.6.1. Directs Production Superintendent (Pro Super) to a create daily priority list for aircraft parking on ramps 5 and 6 from 15 November through 30 April (or whenever weather forecast predicts snow and ice) and report priorities to the 726

AMS/MOC by 1900 local. The MOC will forward all S&IC removal priorities to the 52 OSS/OSAM. All priorities need to be submitted by email NLT 2000 hours Monday through Friday; NLT 1900 hours Saturday, Sunday, and on German holidays, prior to next day's flying operations.

1.3.6.2. Directs 726 AMS/Air Terminal Operations Center to determine snow removal needs for cargo and aircraft loading areas 15 November through 30 April (or whenever weather forecast predicts snow and ice) then report removal priorities to the 726 AMS/MOC. The MOC will forward all 726 AMS S&IC priorities to the 52 OSS/OSAM. All priorities need to be submitted NLT 2000 hours Monday through Friday; NLT 1900 hours Saturday, Sunday, and on German holidays, prior to next day's flying operations. If received after the above listed times delays could occure.

1.3.6.3. Ensure MOC provide updates to the schedule as soon as the aircraft priority changes to allow S&IC operations to meet the priorities update. All priorities need to be submitted NLT 2000L Monday through Friday and 1900L Saturday, Sunday and German holidays. Directs 726 AMS/MOC to report updated snow and ice removal priorities to the 52 OSS/OSAM.

1.3.6.4. Ensures 726 AMS Pro Super directs removal of tools, fire extinguishers, wheel chocks, AGE equipment and any other items from parking ramps 5 and 6 prior to S&IC operations. The S&IC operations will commence when each area is completely cleared of vehicles and equipment.

1.3.6.5. Ensures 726 AMS personnel are familiar with aircraft deicing operation procedures to include proper operation of safe drains, 52 CES notification timelines for GRV support, and tracking deicing fluid use.

1.3.6.6. Directs 726 AMS personnel to restrict vehicle movement to an absolute minimum on unplowed airfield pavements to prevent compaction of snow.

1.3.7. 52 CES/CC Responsibilities.

1.3.7.1. Provides adequate training, facilities, equipment and materials to ensure safe and efficient S&IC operations.

1.3.7.2. Identifies any manning shortfalls to 52 CES/CEO by 15 September of each year. Ensures S&IC augmentees are trained, and additional civilian over-hire positions are funded by the wing NLT 1 October.

1.3.7.3. Provides storm water management per Spangdahlem Air Base Instruction (SPANGDAHLEMABI) 32-7003, *Water Quality Management-Combined Storm Water Pollution/Spill and Batch Discharge Slug Prevention Plan*, to minimize potential environmental impact of S&IC operations.

1.3.7.4. Retains final authority on chemical deicer application times and rates for paved surfaces (delegated to 52 CES/CEOH and SNOW-1). Ensures deicing agents are applied IAW local storm water provisions, and coordinates with 52 CES/CEAN.

1.3.7.5. Approves request for snow removal service contracts when justified.

1.3.7.6. Directs 52 CES personnel to restrict vehicle movement to an absolute minimum on unplowed airfield pavements to prevent compaction of snow.

1.3.8. 52 CS/CC Responsibilities.

1.3.8.1. Provides and maintains base station and vehicle mounted land mobile radio (LMR) communications with tower net for all agencies requiring airfield communications in support of S&IC operations.

1.3.8.2. Repairs LMRs using established priority repair lists in unit and/or base directives.

1.3.8.3. Provides dedicated net for S&IC communications.

1.3.8.4. Directs 52 CS personnel to restrict vehicle movement to an absolute minimum on unplowed airfield pavements to prevent compaction of snow.

1.3.8.5. Notify 52 OSS/OSAM Ops when the Instrument Landing System Glide Slope Near Field/Far Field Reflection Areas, the Precision Approach Radar Reflector Sail and Reference Reflectors require priority snow plowing or deicing due to signal interference. 52 CS will monitor S&IC activities to determine when signal interference is no longer an issue.

1.3.9. 52 CONS/CC Responsibilities.

1.3.9.1. Administers contracts for emergency vehicle/equipment lease, rental or repair as required.

1.3.9.2. Promptly procures parts and supplies in support of S&IC operations.

1.3.9.3. Maintains emergency procurement capabilities during non-duty hours between 15 November and 30 April or when weather conditions dictate outside of these dates.

1.3.10. 52 LRS/CC Responsibilities.

1.3.10.1. Maintains and repairs all S&IC vehicles. Provides 24/7 response to perform immediate repair of all vehicles used for S&IC operations between 15 November and 30 April to ensure any vehicle/equipment on the mission essential list (MEL) is returned to service as S&IC operations will be degraded until resolved.

1.3.10.2. Performs summer rebuild for all S&IC vehicles from 1 April to 30 September. S&IC vehicle rebuilds shall be completed by 30 September so vehicles are available for annual snow removal augmentee training in October.

1.3.10.3. Maintains stock of parts adequate to repair S&IC vehicles/equipment during emergencies.

1.3.10.4. Promptly procures requested equipment and supplies for S&IC.

1.3.10.5. Provides 24/7 refueling of S&IC equipment during S&IC operations when 52 CES/CEOHP fuel pumps are not operational.

1.3.10.6. Directs 52 LRS personnel to restrict vehicle movement to an absolute minimum on unplowed airfield pavements to prevent compaction of snow.

1.3.11. 52 SFS/CC Responsibilities.

1.3.11.1. Enforces restricted parking notices during S&IC operations.

1.3.11.2. Removes portable restricted area boundaries (i.e. rope and stanchions) affected by aircraft movement to allow for efficient S&IC operations.

1.3.11.3. Directs 52 SFS personnel to restrict vehicle movement to an absolute minimum on unplowed airfield pavements to prevent compaction of snow.

1.3.11.4. Ensures SFS vehicles remain on paved airfield surfaces, unless responding to a real world emergency situation.

1.3.11.5. 52 OSS/OSAM, Snow Control Center (SCC), Maintenance Operations Center, 52 FW Command Post (52 FW/CP), and the Control Tower may request and grant access for break red authority in the restricted areas on the airfield.

1.3.12. 52 FSS/CC Responsibilities.

1.3.12.1. Provides box meals for S&IC personnel when their duty hours or locations prevent them from utilizing the dining facilities.

1.3.12.2. Meal support can be requested at the Flight Kitchen, DSN: 452-8857, during their posted duty hours; requesting organizations will be responsible for picking up all meals and providing essential station messing customers' names, last four of the social security number and cash customers' names and associated monies.

1.3.12.3. In the event the Flight Kitchen is closed, similar service will be provided by calling the Dining Facility, DSN: 452-6727, using the same procedures as the Flight Kitchen.

1.3.13. 52 FW/SE Responsibilities.

1.3.13.1. Reviews the S&ICP annually (NLT 1 October) to ensure planned operations are safe.

1.3.13.2. Periodically reviews S&IC operations to ensure adherence to established procedures.

1.3.13.3. Recommends improved safety measures to S&ICP managers.

1.3.13.4. Publicizes snow and ice hazard information and required precautions when encountering S&IC equipment.

1.3.14. 52 CES/CEO Responsibilities.

1.3.14.1. Forms and chairs the S&ICWG and appoints additional members as needed.

1.3.14.2. Oversees revision and implementation of the S&ICP.

1.3.14.3. Ensures adequate equipment and supplies are available to conduct S&IC operations.

1.3.14.4. Ensures all permanently installed airfield property (airfield lighting, Aircraft Arresting System, etc.) are properly marked to increase their visibility and prevent damage by S&IC equipment.

1.3.14.5. Ensures S&IC personnel are properly trained.

1.3.14.6. Ensures barrier pendant cables are disconnected and removed during S&IC operations. In the event barriers must remain operational, 52 CES Power Production Shop (52 CES/CEOFP) personnel will clear snow from around the cables. After S&IC operations, 52 CES/CEOFP will ensure pendant cables are properly reinstalled.

1.3.14.7. Maintains regular contact (via phone and/or email) with 52 OSS/OSAM and 52 FW/SEF during S&IC season to ensure effective and safe operations.

1.3.14.8. "Safety zones" shall be defined as any area within 10 feet around equipment and facilities (aircraft arresting systems, HAS doors, AGE, etc). S&IC equipment shall not operate within the safety zones.

1.3.15. 52 CES/CEF Responsibilities.

1.3.15.1. Ensures barrier pendant cables are disconnected and removed when required to support S&IC operations during non-flying/duty hours.

1.3.16. 52 CES/CEAN Responsibilities.

1.3.16.1. Monitors and enforces storm water management per SPANGDAHLEMABI 32-7003.

1.3.16.2. Monitors and reports deicing chemical consumption rates to USAFE/Civil Engineer and host nation authorities (SGD-N) as required.

1.3.16.3. Coordinates use of chemicals not previously accepted or approved for use at Spangdahlem AB, and by US Air Force (USAF) Single Airframe Managers.

1.3.17. 52 OSS/OSW Responsibilities.

1.3.17.1. Provides weather information on request of 52 CES/CC and 52 CES/CEOHP SCC during airfield operating hours. Outside of normal airfield operating hours, the SCC will contact 21st Operational Weather Squadron, Sembach AB, Germany at DSN 496-6119.

1.3.17.2. Notifies the SCC when weather forecasts predict snow or ice accumulation or if significant weather changes have occurred or are imminent. Watches, warnings and advisories will be issued and/or disseminated IAW SPANGDAHLEMABI 15-101, *Weather Support*.

1.3.18. 52 OSS/OSAM Responsibilities.

1.3.18.1. 52 OSS/OSAM Ops is the direct liaison with the SCC. Communicates S&IC priorities to the SCC by radio, fax, and telephone as soon as received and consolidated from 52 MOS and 726 AMS.

1.3.18.2. Ensure MOC provide updates to the schedule as soon as the aircraft priority changes to allow S&IC operations to meet the priorities update. All priorities need to be submitted NLT 2000L Monday through Friday and 1900L Saturday, Sunday and German holidays.

1.3.18.3. Outside normal airfield operating hours the SCC will coordinate with 52 OSS/OSAM Ops for support if needed.

1.3.18.4. Ensures airfield S&IC operations are IAW with established priorities.

1.3.18.5. Updates leadership on airfield pavement status as required.

1.3.18.6. Conducts runway condition readings (RCR) according to Technical Order (TO) 33-1-23, *Procedures for Use of Decelerometer to Measure Runway Slickness*, as required when snow or ice is present on the airfield, hourly as operations permit and when changing weather conditions exist or as requested by the SCC. 522 OSS/OSAM Ops will provide all readings to the SCC to help determine chemical use.

1.3.18.7. Coordinates with SNOW-1 prior to conducting RCRs to ensure airfield pavements being tested are clear of vehicles and there is a safe operating environment.

1.3.18.8. Visually inspects areas cleared by S&IC operations and reports any unsatisfactory conditions to the SCC.

1.3.18.9. Publishes orders and instructions concerning airfield driving.

1.3.19. 52 OSS/OSAT Responsibilities.

1.3.19.1. Controls vehicular traffic and communication procedures on aircraft control movement areas.

1.3.19.2. Transfers all airfield snow removal vehicles clearance control to SNOW-1 during S&IC operations (when mission requirements permit).

1.3.19.3. Ensures airfield lights are on during S&IC operations when requested by SNOW-1.

1.3.20. 52 CES/CEOHP Responsibilities.

1.3.20.1. Identifies adequate requirements for snow and ice control supplies. Establishes minimum levels for each item, arranges for on-call items and identifies shortages to 52 CES/CEO by 30 May each year.

1.3.20.2. Maintains and operate the SCC to oversee the airfield, Spangdahlem AB, and Bitburg Annex operations.

1.3.20.3. Ensures pavement clearing priorities are received from 52 OSS/OSAM and strictly adhered to.

1.3.20.4. Coordinates S&IC operations with 52 OSS/OSAM.

1.3.20.5. Ensures all safety practices/procedures are followed during S&IC operations.

1.3.20.6. Establishes Spangdahlem AB and Bitburg Annex pavement clearing priorities IAW emergency response requirements.

1.3.20.7. Establishes S&IC crews, shift schedules and ensures equipment and personnel are available for 24-hour operations.

1.3.20.8. Designates SNOW-1 for each shift and delegates sole operational responsibility of S&IC crews to SNOW-1.

1.3.20.9. Maintains an accurate record of all chemical, material and equipment use.

1.3.20.10. Complies with instructions in this document and equivalent guidance outlined in Air Force Instruction (AFI) 32-1002, *Air Force Snow and Ice Control (S&IC).*

1.3.20.11. Contacts 52 CES Electrical Shop (52 CES/CEOFE) , to switch on or off airfield lighting as needed when control tower is not manned.

1.3.20.12. Provides 52 OSS/OSAM with the equipment status when equipment goes down and when it is brought back into service.

1.3.20.13. Advises 52 OSS/OSAM Ops when chemical deicing chemicals are being or have been applied to airfield pavement surfaces to initiate appropriate Notice to Airmen (NOTAM) actions.

1.3.20.14. Reports all accidents/incidents on the airfield to 52 OSS/OSAM Ops.

1.3.20.15. Advises 52 OSS/OSAM Ops as priorities are completed. Once the priorities have been accepted by 52 OSS/OSAM Ops, the SCC will update the GEOBASE snow removal website.

1.3.21. 52 MOS/MXOOM Responsibilities.

1.3.21.1. Creates and consolidate priority lists for clearing snow and ice from Airfield Pavements from 15 November through 30 April.

1.3.21.2. Forwards all priority listings to 52 OSS/OSAM NLT 2000L Monday through Friday and 1900L on Saturday, Sunday and German holidays, prior to the next day flying operations. Delays may occur if received past the listed times.

1.3.21.3. Ensures tools, fire extinguishers, wheel chocks, vehicles and AGE equipment are cleared from all HAS hardstands, flight line trees, hot-pit areas and all ramps prior to S&IC operations.

1.3.22. 52 CES/CEOIU Responsibilities.

1.3.22.1. Defines the DICON level and updates 52 CES/CC and the MOC at least daily. The DICON levels green, yellow, red or black are defined following the DICON Decision Matrix described in attachment 3.

1.3.22.2. Establishes Deicing Recovery crews, shift schedules and ensures equipment and personnel are available for 24-hour operations.

1.3.22.3. Maintains an accurate record of deicing fluid used, water levels, and COD readings.

1.3.22.4. Ensures all safety practices/procedures are followed during Deicing Recovery operations.

1.3.22.5. Deicing Recovery equipment will be inspected at least once per shift to identify breakage or loss of parts that could pose a Foreign Object Damage (FOD) hazard to aircraft.

1.3.22.6. Provides Deicing Recovery personnel all required training.

2. Snow & Ice Control Concept.

2.1. Concept.

2.1.1. During the snow and ice season, Spangdahlem AB must ensure airfield, base roads, and A/C are kept cleared from snow and ice.

2.1.1.1. Spangdahlem AB must conduct S&IC operations 24/7 to ensure airfield pavements are properly cleared in order to support both 52 FW and 726 AMS missions. The entire Spangdahlem community must be engaged in this effort in order to prevent lost sorties. This section describes specific actions individuals and organizations must conduct/implement during snow and ice conditions.

2.1.1.2. Spangdahlem AB must conduct A/C deicing operations to ensure airlift A/C are properly cleared in order to support 726 AMS missions. The use of A/C deicing chemicals represents an increased load to the base storm water drainage and treatment system. To mitigate the release of contaminated water off-base in accordance with host nation water permits, it is crucial to control both deicing chemical usage and recovery.

2.1.1.3. Spangdahlem AB is usually not required to conduct A/C deicing operations on 52 FW fighters A/C, due to the fact the 52 FW fighters are usually parked inside A/C shelters during the snow and ice season. Fighters A/C deicing will not be further detailed in the present instruction.

2.1.2. 52 OSS/OSAM is the single point of contact for S&IC priorities on all airfield pavements and are the only agency authorized to give direction to the SCC or SNOW-1, other than the 52 FW/CC who can alter the priorities to 52 OSS/OSAM and/or MOC at any time.

2.1.2.1. Further, all base agencies and tenants communicate their airfield pavement clearing requirements to 52 OSS/OSAM for incorporation into a single, consolidated priority listing.

2.1.2.2. 52 OSS/OSAM communicates airfield pavement clearing priorities to the SCC for accomplishment.

2.1.2.3. Any changes in priority or special clearing requests will be communicated by 52 OSS/OSAM to the SCC via radio, snow control email inbox and/or telephone.

2.1.2.4. SNOW-1 directs S&IC crews to clear airfield pavements of snow and ice IAW with 52 OSS/OSAM consolidated priority list.

2.1.2.5. Upon clearing of airfield pavements, OSAM Ops will inspect the area to determine if acceptable and then communicate this to SCC. RCRs, when taken, will be reported to SCC and applicable agencies. **Note**: 52 OSS/OSAM is responsible for accepting/rejecting all airfield pavements except HAS hardstands and adjoining trees which are the Pro Super's responsibility.

2.1.2.6. The 52 MOS/MXOOM and the 726 AMS/MOC will notify 52 OSS/OSAM if an area is unacceptable based on the priority list. 52 OSS/OSAM will then advise the SCC of areas that need additional further attention.

2.1.2.7. 52 OSS/OSAM keeps the SCC informed of pavement acceptance and the need of further S&IC actions.

2.1.3. Direction of S&IC crews and operations is the responsibility of 52 CES/CEOHP SCC and SNOW-1.

2.1.3.1. S&IC personnel take direction from SNOW-1 only and will not be diverted by anyone for any reason except to stop an unsafe action.

2.1.3.2. While the airfield is active the SCC and SNOW-1 will maintain radio contact with the control tower while conducting S&IC operations in controlled movement area (CMA). Outside of normal airfield flying hours, the SCC and SNOW-1will contact 52 FW/CP for control of the CMA.

2.1.3.3. S&IC operations take priority over other users on a multiple-user radio net, unless otherwise directed by the control tower.

2.1.3.4. The control tower will leave airfield lights on when requested by SNOW-1 during S&IC operations. When the control tower is closed, runway and taxiway lighting support is conducted by 52 CES/CEOFE.

2.1.3.5. SNOW-1 notifies 52 OSS/OSAM and the control tower of any unusual conditions caused by S&IC operations, to include potential and known hazards (windrows, snow banks, slush, etc.) on the runway. **Note:** This is especially critical when snow removal operations are interrupted for departing and arriving aircraft.

2.1.3.6. The SCC will contact 52 OSS/OSAM after airfield pavement surfaces are cleared.

2.1.4. 52 MOS/MXOOM will determine 52 FW aircraft pavement priorities and forward to 52 OSS/OSAM. 726 AMS Pro Super will determine aircraft pavement priorities and pass to MOC, 726 AMS/Air Terminal Operations Center will set mission cargo priority list, and 726 AMS/MOC will consolidate and forward to 52 OSS/OSAM. In addition, 52 MOS/MXOOM and 726 AMS/MOC will.

2.1.4.1. Notify 52 OSS/OSAM of unaccepted surfaces NLT 2 hours prior to launch to allow SNOW-1 time to readdress the area.

2.1.5. Direction of Aircraft Deicing Recovery crews and operations is the responsibility of 52 CES/CEOIU noncommissioned officer in charge (NCOIC)

2.2. Airfield Pavement Clearing Procedures.

2.2.1. Clearing priorities are established by 52 OSS/OSAM using the following mission priority listing.

2.2.1.1. Emergencies.

2.2.1.2. National Airborne Operations Center/Close Watch.

2.2.1.3. Distinguished Visitors.

2.2.1.4. Air Mobility Command (AMC) monitored missions (arrivals/departures).

2.2.1.5. 52 FW assigned aircraft.

2.2.1.6. Transient operations/possible diverts.

2.2.2. The following clearing priorities are used unless otherwise directed by 52 OSS/OSAM. (see Attachment 2)

2.2.2.1. Priority 1 (red on the Snow Map).

2.2.2.1.1. Runway and overruns.

2.2.2.1.2. Primary taxiways: Alpha, Golf, Papa, and Echo.

2.2.2.1.3. Access to Fire Station 3 on ramp 5.

2.2.2.2. Priority 2 (yellow on the Snow Map).

2.2.2.2.1. Secondary taxiways: Bravo, Charlie, Delta, Foxtrot and all trees in the HAS area.

2.2.2.2.2. Aircraft arm and de-arm pads.

2.2.2.2.3. All aircraft parking areas.

2.2.2.2.4. Hot pit refueling areas.

2.2.2.3. Priority 3 (green on the Snow Map).

2.2.2.3.1. All access roads on airfield.

2.2.2.3.2. Personal Owned Vehicle/Government Owned Vehicle parking lots on airfield.

2.2.3. Edge lights, in-pavement lights and runway distance markers will be kept uncovered at all times. Equipment operators must exercise caution to protect lights from damage while performing S&IC operations.

2.2.4. The runway is cleared 75-feet from each side of the centerline at the start of each snowstorm. Once flying operations begin, further clearing is conducted in coordination with 52 OSS/OSAM.

2.2.5. Parking ramps will not be cleared unless directed by 52 OSS/OSAM. 52 MOS/MXOOM will request clearing of Ramps 1 – 4 and 726 AMS/MOC will consolidate and submit clearing requests for Ramps 5 & 6 and the 726 AMS cargo yard.

2.2.6. The Instrument Landing System Glide Slope Near Field/Far Field Reflection Areas, the PAR Reflector Sail and Reference Reflectors do not require priority plowing or deicing unless snow accumulation reaches 18 inches or the glide slope signal is affected. If this occurs

2.2.6.1. 52 CS Maintenance Control will request S&IC operational support through 52 OSS/OSAM. S&IC Operations will only support on paved areas.

2.2.6.2. 52 CS Metrological and Navigational Equipment and Radar Maintenance personnel will supervise S&IC operations in these areas.

2.2.7. Unusual requirements (i.e. aircraft towing, Close Watch) requiring S&IC support are coordinated with 52 OSS/OSAM for proper prioritization.

2.2.8. All snow piles taller than 24” within the aircraft movement area hinder safe aircraft operations and must be removed. Also, S&IC operations will remove snow accumulation for aircraft wing and engine clearance, and will determine the permissible snow tolerance beyond the aircraft movement area for the appropriate aircraft.

2.2.8.1. All precautions will be taken to ensure contaminated snow remains on the paved surface.

2.2.9. Operating Techniques.

2.2.9.1. The types and quantities of S&IC support equipment authorized for use at Spangdahlem AB depends on the operational status of the base and average mean snowfall spanning 10 years.

2.2.9.2. S&IC techniques require the use of large capacity rotary snow blowers, runway sweepers and rollover plows operating at speeds in excess of 15 miles per hour. All personnel driving on or around airfield must be aware of this requirement and yield to S&IC equipment.

2.2.9.3. Under heavy snowfall conditions, operations are concentrated on keeping the centerline portion of the active runway open. Wind velocity and direction usually determines the clearing pattern to be followed.

2.2.9.4. In light-to-moderate snowfall conditions, the entire primary instrument runway is kept clear.

2.2.9.5. To avoid accidents during low visibility conditions, S&IC operators must maintain a safe distance (at least 50 feet) between vehicles, especially while operating in a snow removal pattern. Equipment movement must be carefully timed and coordinated to ensure an orderly turn-around and a safe re-entry at the start of the return trip.

2.2.9.6. Snow removal equipment will be inspected at least once per shift to identify breakage or loss of parts that could pose a FOD hazard to aircraft.

2.2.10. Airfield Pavements Chemical Deicer.

2.2.10.1. Deicing chemicals are applied to all airfield pavements at the discretion of SNOW-1 and are spread far enough across the pavement to allow safe travel for the largest aircraft utilizing the taxiway.

2.2.10.2. SCC or SNOW-1 will notify 52 OSS/OSAM when chemical deicer is applied to any airfield pavement. 52 OSS/OSAM will send appropriate NOTAMs.

2.2.10.3. Deicing chemicals are not applied on pavement which already satisfies the minimum RCR for safe launch and recovery of aircraft. The following are RCR for aircraft assigned and transiting through Spangdahlem AB. This is a guide for SNOW-1 to use when deicing chemicals need to be applied. For aircraft not listed, SNOW-1 will use the highest RCR listed, which is 12.

Figure 1. Runway Condition Reading

Aircraft Type	Takeoff	Landing
F-16	**10**	**10**
A-10	**10**	**12**

C-17	**5**	**3**
C-5	**5**	**5**
KC-10	**6**	**4**

2.2.10.4. 52 OSS/OSAM will send a NOTAM advisory of deicing chemical use on the airfield.

2.3. Main Base Pavement Clearing Procedures.

2.3.1. Simultaneously with operations on the airfield, S&IC operations for roads and other secondary areas on Spangdahlem AB and Bitburg Annex will be accomplished using established priority listings; any additional requests are coordinated through 52 CES/CEO or the SCC.

2.3.1.1. Priority 1 streets are emergency response vehicle routes (color coded red on snow map).

2.3.1.2. Priority 2 are all other base streets (color coded yellow).

2.3.1.3. Priority 3 are parking lots, sidewalks (color coded green).

2.3.1.3.1. Main base parking area S&IC operations are accomplished at night, when possible.

2.3.1.3.2. Sidewalks, areas outside of 100 feet of facilities and pedestrian walkways will be plowed and have salt applied by the SCC.

2.3.1.3.3. S&IC operations within ten feet from around fire hydrants and hose reel compounds, building entrances, sidewalks, dumpster sites and loading ramps are accomplished by facility managers to allow for free/unimpeded access.

2.3.1.3.4. Sidewalks and individual parking areas in family housing are cleared by the building custodians/occupants.

2.3.1.4. Procedures for clearing snow from streets and roads vary with the amount of snow, equipment available and obstructions encountered.

2.4. Aircraft Chemical Deicing Operations.

2.4.1. Deicing chemicals applied to aircraft will be controlled by 726 AMS.

2.4.1.1. Prior to deicing operations, 726 AMS personnel shall ensure all drains in the vicinity are covered and closed to prevent release of deicing fluids into the storm water collection system.

2.4.1.2. Approximately one hour prior to aircraft deicing operations the MOC will contact 52 CES/CEOIU for dispatch of the GRV.

2.4.1.3. Upon arrival of the GRV, deicing operations can begin using best practices that limit fluid use to the lowest possible levels without compromising flight safety.

2.4.1.4. Aircraft deicing fluid use must be tracked and reported to the MOC by 726 AMS.

2.4.1.5. As each aircraft blocks out, the GRV will remove a majority of the dispensed fluid from the ramp.

2.5. DICON Action Plan.

2.5.1. 52 CES/CEOIU will assess current conditions and assign the DICON (green, yellow, red, or black), broadcasting it to the MOC daily (**Attachment 3**) and makes recommendations to 52 CES/CC.

2.5.2. Using the DICON, 52 CES makes recommendations on aircraft deicing operation restrictions.

2.5.2.1. If DICON Red, 52 CES/CC notifies the Deicing Czar, who then coordinates with 726 AMS/CC to take appropriate steps to reduce aircraft deicing operations. This includes limiting deicing operations to mission critical aircraft, requiring specific approval by tail number.

2.5.2.2. If DICON Black, the Deicing Czar notifies 52 FW/CC, who then coordinates with 726 AMS/CC to cease aircraft deicing operations. Notification must be made to USAFE and AMC if DICON Black is assigned.

3. Snow & Ice Control Manning, Training, and Equipment/Facilities.

3.1. Manning.

3.1.1. Snow shifts will be postured on manpower availability to run 24 hours, 7-days a week from 15 November through 31 March in order to perform snow removal operations in a manner that is safe while still meeting mission requirements. Operator fatigue is a key concern. All shift personnel will ensure they receive 8 hours of rest prior to the start of their duty.

3.1.1.1. If required, 52 CES augmentation is used to meet manning requirements.

3.1.1.2. 52 CES/CC will identify required number of augmentees NLT 15 September.

3.1.1.3. Personnel shall be identified by name to 52 CES/CEOH NLT 30 September.

3.1.1.4. Augmentees are required to attend a one-week training course each year in October.

3.1.1.5. Augmentee personnel will report to and fall under SNOW-1 upon recall by the SCC. They remain under the control of SNOW-1 until S&IC operations are completed and the augmentees have been released by SNOW-1 back to their duty sections.

3.1.2. Aircraft Deicing Recovery shifts will be postured on manpower availability to run 7-days a week from 15 October through 15 April. Due to specific Air Force Specialty Code operations, Aircraft Deicing Recovery shifts will only be performed by 52 CES/CEOIU personnel. No augmentees will be required.

3.2. Training.

3.2.1. S&IC operations are inherently dangerous; training to ensure safe operations should include formal classroom lectures, training films, discussion periods and hands-on training such as:

3.2.1.1. All vehicle operators must be trained in driving on the airfield and possess a flightline drivers license with CMA access.

3.2.1.2. Identifying operator maintenance responsibilities, including fuel, fluid, supply locations, repair techniques and heavy equipment maintenance reporting and procedures.

3.2.1.3. Hands-on training for all S&IC/GRV equipment. Perform practice runs with the equipment using typical operation scenarios. Substitute water for liquid deicers to reproduce realistic operations.

3.2.1.4. Training on communication procedures and right-of-way information.

3.2.1.5. Details of the S&ICP, emphasizing the order of priorities.

3.2.1.6. Airfield and base familiarization tours highlighting locations where problems are likely to occur. Conduct a night shift orientation with appropriate personnel.

3.2.1.7. Inform personnel of duty location, duty hours, duty uniforms, shift schedules and notification procedures.

3.2.1.8. During initial operator training and shop briefings, all personnel will perform a dry run on the active runway to be familiarized with the location of airfield markers, lights, barriers and other obstructions.

3.2.2. Preparing the S&IC team.

3.2.2.1. Duty sections must comply with all vehicle licensing and personal protective equipment policies. All equipment operators must meet minimum training hour requirements before licensing.

3.2.2.2. Employ Snow Removal civilian over hires NLT 15 November of each year to leave time for their training and medical examinations.

3.2.2.3. S&IC operations and working conditions are hazardous. Operators must be trained to:

3.2.2.3.1. Anticipate hazards to equipment and attachments from hidden obstructions.

3.2.2.3.2. Wear safety restraints at all times.

3.2.2.3.3. Be aware of sleep deprivation and how to avoid falling asleep while operating S&IC equipment by 52 Aerospace Physiology (52 AMDS/SGPT) at DSN 452-6923.

3.3. Equipment:

3.3.1. Perform pre-season vehicle/equipment operational checks, including dry runs that resemble winter use as closely as possible.

3.3.1.1. Ensure all equipment is mechanically sound and operational by 1 September. Identify equipment shortfalls to 52 CES/CEO.

3.3.1.2. Provide bi-weekly equipment status to 52 CES/CEO between 1 November and 1 May.

3.3.1.3. Use heated storage facilities when possible to lengthen equipment life, reduce maintenance costs and ensure rapid response.

3.3.1.4. Install and perform operational checks of all vehicle mounted, hand held and base station radios.

3.3.1.5. Conduct daily run-up and operational checks of all equipment between 15 November and 30 April.

3.3.1.6. Properly adjust and calibrate all S&IC equipment attachments prior to S&IC operations.

3.3.1.7. Equip each unit with required support materials such as tow cables, shovels, shear pins, ice scrapers and tool kits.

3.3.1.8. Use wear-resistant tungsten carbide cutting edges to reduce maintenance.

3.3.1.9. Replenish broom cores with poly bristles and spacers.

3.3.1.10. Put vehicle call signs, base and airfield maps, spreader settings, operator manuals and snow removal priorities in each vehicle.

3.3.2. Reviewing Runway Ice Detection System (RIDS).

3.3.2.1. Four sensors embedded in the runway pavement measure surface conditions. These sensors measure pavement temperature, indicate presence of water or ice and provide information to allow the SCC to choose the most appropriate S&IC method.

3.3.2.2. Air temperature is not an accurate gauge of pavement surface conditions. Many factors influence the formation of ice on pavements, including pavement temperature, surface color and composition, wind, humidity, solar radiation, traffic and residual deicing chemicals.

3.3.2.3. Sensors are particularly valuable in timing anti-icing applications of chemicals. Ice formation can be predicted if the direction and rate of change of the pavement temperature is known. This information also aids in the determination of chemical application rate when ice or compacted snow has already accumulated on pavements.

3.3.2.4. The RIDS (an annual contract) must be checked prior to the start of each snow season to ensure it is operational. Filters must be replaced and sensor pins cleaned.

3.3.3. SCC.

3.3.3.1. The SCC is equipped with a minimum of

3.3.3.1.1. Two multi-line Class “A” telephones for recalling S&IC personnel (452-6216, 452-6508).

3.3.3.1.2. One radio transceiver or remote, using a dedicated net for S&IC communications when possible.

3.3.3.1.3. Dispatch boards displaying vehicle registration numbers, nomenclature,

vehicle status, dispatched location, operator name, radio call signs and comments.

3.3.3.1.4. Appropriate layout maps with color-coded priorities, status and runway surface conditions.

3.3.3.1.5. Personnel rosters showing duty status and recall information.

3.3.3.1.6. Charts identifying current weather conditions and forecasts.

3.3.3.1.7. GEOBASE website snow removal portion. Updates airfield conditions during S&IC operations.

4. Post Snow & Ice Season Actions.

4.1. S&ICWG members may review the SCC activity logs throughout the winter. At the end of the snow and ice season the S&ICWG members may incorporate any needed revisions into the S&ICP. They also prepare actions for the next snow and ice season.

4.1.1. The 52 CES/CEOHP NCOIC is responsible for inspection, repair and storage of all S&IC equipment when the SCC is deactivated at the end of the snow and ice season. The NCOIC also:

4.1.1.1. Identifies all required replacement parts and orders them immediately.

4.1.1.2. Completes end-of-season activities such as storing snow fences and snow markers.

4.1.1.3. Organizes and prepares the post-season snow briefing for the 52 FW/CC NLT 31 May.

4.1.2. The 52 CES/CEOIU NCOIC is responsible for inspection, repair and storage of all A/C Deicing Recovery equipment at the end of the A/C deicing season. The NCOIC also identifies all required replacement parts and orders them immediately.

4.1.3. The 52 LRS/Logistics Readiness Vehicle Maintenance provides a report on the status of snow removal vehicles and summer rebuild requirements.

4.1.4. 52 CES/CEO inspects all pavement surfaces for damage which may have been caused by snow removal or A/C deicing recovery equipment. Survey other property for possible damage, such as airfield lighting, aircraft arresting systems, base signs, grounds and security fences. Notifies 52 OSS/OSAM of any damage found on the airfield.

5. Adopted and Prescribed Forms.

5.1. Forms Adopted. AF 847, *Recommendation for Change of Publication*.

5.2. Forms Prescribed. No forms prescribed.

CHRISTOPHER P. WEGGEMAN, Colonel, USAF
Commander

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 32-10, *Installations and Facilities,* 4 March 2010

AFI 32-1002, *Snow and Ice Control,* 1 October 1999

AFI 33-106, *Managing High Frequency Radios, Personal Wireless Communications Systems, and the Military Affiliate Radio System,* 9 January 2002

SPANGDAHLEMABI 32-7003, *Water Quality Management-Combined Storm Water Pollution/Spill and Batch Discharge Slug Prevention Plan*, 10 March 2004

SPANGDAHLEMABI 15-101, *Weather Support*, 12 August 2010

TO 33-1-23, *Procedures for Use of Decelerometer to Measure Runway Friction*, 1 December 1994

Abbreviations and Acronyms

A/C— Aircraft

AFI— Air Force Instruction

AGE— Aerospace Ground Equipment

AMC— Air Mobility Command

CMA— Controlled movement area

DICON— Deicing condictions

FOD— Foreign object damage

GRV—Glycol Recovery Vehicle

HAS— Hardened Aircraft Shelter

IAW— In Accordance With

LMR— Land mobile radio

NCOIC— Noncommissioned officer in charge

NLT— No later than

NOTAM— Notice to Airmen

Pro Super— Production superintendent

RCR— Runway condition readings

RIDS— Reviewing Runway Ice Detection System

SCC—Snow Control Center

S&IC—Snow and Ice Control

S&ICC—Snow and Ice Control Committee

S&ICP—Snow and Ice Control Plan

S&ICWG—Snow and Ice Control Working Group

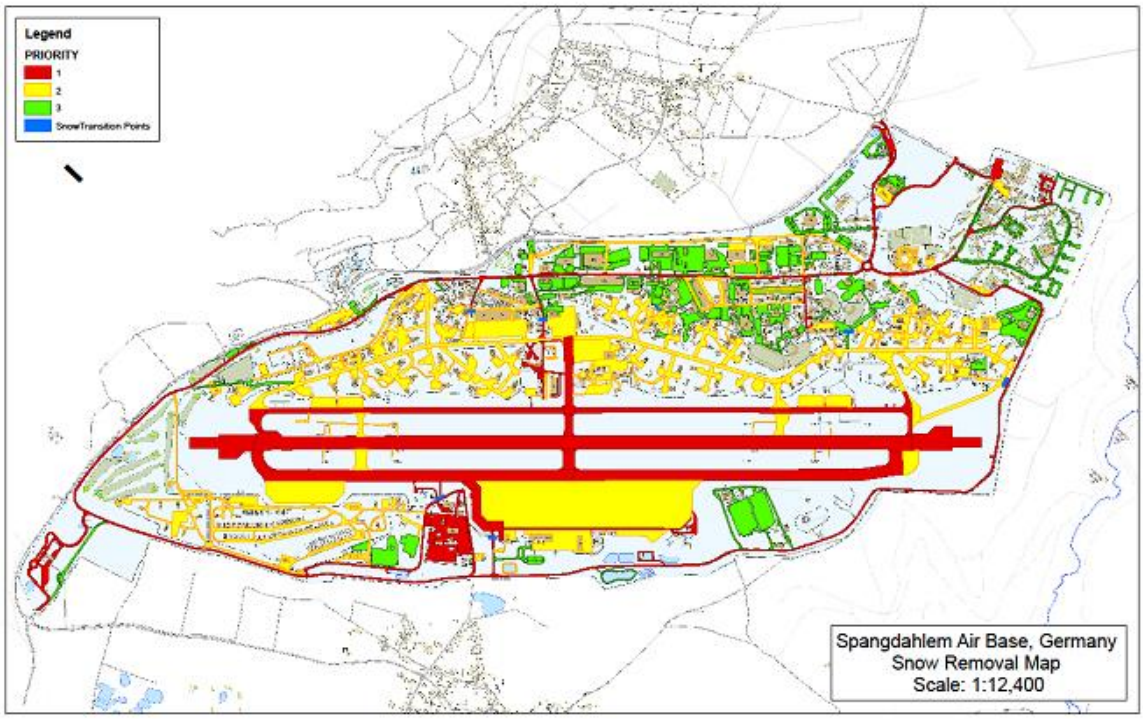
SNOW-1—1—Snow and Ice Control Shift Lead

TO— Technical Order

Attachment 2

SNOW REMOVAL PRIORITIES

Figure A2.1. Snow Removal Priorities



Attachment 3

DEICING CONDITIONS (DICON) MATRIX

Figure A3.1. DICON Matrix

System Capacity Weather Conditions (next 48 hrs)	Low (Vol 25%) (COD 200)	Moderate (Vol 50%) (COD 600)	Heavy (Vol 75%) (COD 1000)	Maximum (Vol 95%) (COD >1000)
Fair				*
Light Precipitation (0.5")				*
Moderate Precipitation (1.0")		*	*	
Heavy Precipitation (>1.0")		*	*	

*** Consider packed snow melt effects on loading in yellow & red conditions**

DICON Green: Wastewater system and equipment are optimum and 48 hour weather forecast isn't expected to degrade the load capacity.

Recommend: Deicing operations proceed with routine control measures.

DICON Yellow: Wastewater system and equipment are under moderate load or 48 hour weather forecast is expected to add a moderate load.

Recommend: Deicing operations proceed with caution and enhanced control measures.

DICON Red: Wastewater system is reaching maximum capacity, a critical component is about to fail, or 48 hour weather forecast is expected to significantly degrade load capacity.

Recommend: Reduce deicing operations to mission critical A/C and approve individually by tail number.

DICON Black: Wastewater system is at maximum capacity or failing and weather conditions are preventing recovery. System cannot handle any additional deicing operations.

Recommend: Cease all deicing operations.